

INTERNATIONAL SEARCH REPORT

International Application No

PCT/03/00502

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 E05B49/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 E05B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

WPI Data, PAJ, EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 625 349 A (DISBROW J E ET AL) 29 April 1997 (1997-04-29) the whole document ---	1-9
Y	EP 1 098 055 A (TALLERES ESCORIAZA SA) 9 May 2001 (2001-05-09) the whole document ---	1-9
Y	US 5 254 824 A (CHAMBERLAIN CRAIG S ET AL) 19 October 1993 (1993-10-19) the whole document ---	1-9
X	EP 0 277 432 A (FORD WERKE AG ; FORD FRANCE (FR); FORD MOTOR CO (GB)) 10 August 1988 (1988-08-10) the whole document --- -/--	1-9

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

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Date of the actual completion of the international search

15 December 2003

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	DE 41 26 416 A (SCHREIBER HANS) 11 February 1993 (1993-02-11) the whole document ---	1-9
Y	DE 41 17 721 C (SCHREIBER HANS) 2 July 1992 (1992-07-02) the whole document -----	1-9

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/03/00502

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 5625349	A	29-04-1997	AU 8935791 A WO 9207342 A1	20-05-1992 30-04-1992
EP 1098055	A	09-05-2001	ES 2178526 A1 EP 1098055 A2	16-12-2002 09-05-2001
US 5254824	A	19-10-1993	US 5294763 A BR 9206804 A CA 2123690 A1 CN 1074286 A ,B DE 69228126 D1 DE 69228126 T2 EP 0615488 A1 ES 2125909 T3 JP 7501499 T KR 249402 B1 MX 9206849 A1 WO 9310962 A1 AU 632543 B2 AU 5126490 A CA 2011740 A1 EP 0397321 A1 JP 2299195 A JP 2886937 B2 KR 156536 B1 KR 156412 B1 KR 156413 B1 US 5446270 A US 5245151 A	15-03-1994 31-10-1995 10-06-1993 14-07-1993 18-02-1999 30-09-1999 21-09-1994 16-03-1999 16-02-1995 15-03-2000 01-05-1993 10-06-1993 07-01-1993 11-10-1990 07-10-1990 14-11-1990 11-12-1990 26-04-1999 16-11-1998 01-02-1999 01-02-1999 29-08-1995 14-09-1993
EP 0277432	A	10-08-1988	US 5003801 A CA 1308565 C DE 3784339 D1 EP 0277432 A1 JP 63194081 A	02-04-1991 13-10-1992 01-04-1993 10-08-1988 11-08-1988
DE 4126416	A	11-02-1993	DE 4126416 A1 AU 8903291 A WO 9221844 A1	11-02-1993 08-01-1993 10-12-1992
DE 4117721	C	02-07-1992	DE 4117721 C1 AU 8903291 A DE 4120744 A1 DE 4122760 A1 WO 9221844 A1	02-07-1992 08-01-1993 07-01-1993 18-03-1993 10-12-1992